

NOAA
FISHERIES
SWFSC / FRD

9.1 Overview of HMS Management Framework in the Pacific

Who uses the stock assessments?

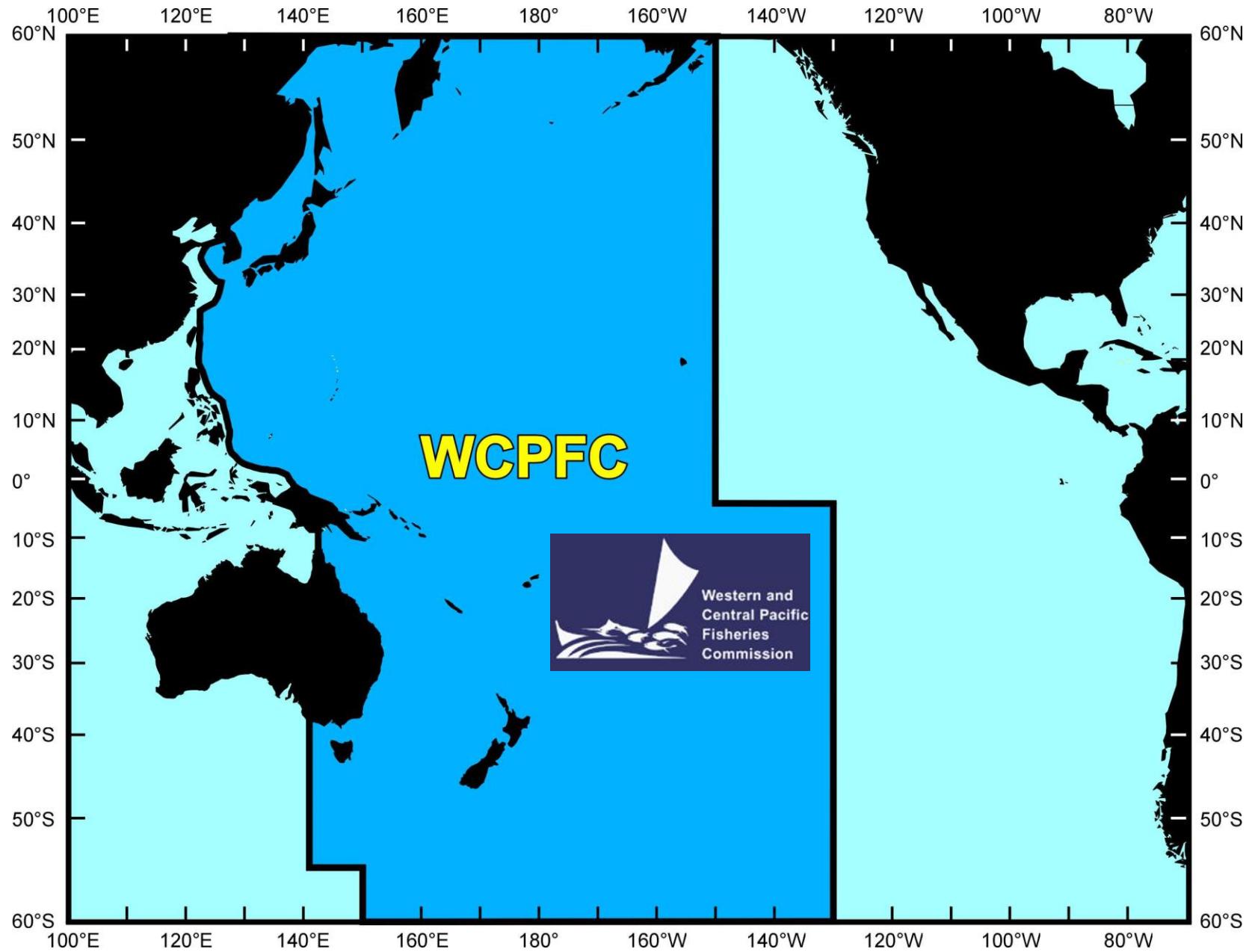
Suzanne Kohin, Leader of the HMS Biology, Survey and Data Management Groups

HMS Fisheries and their Management

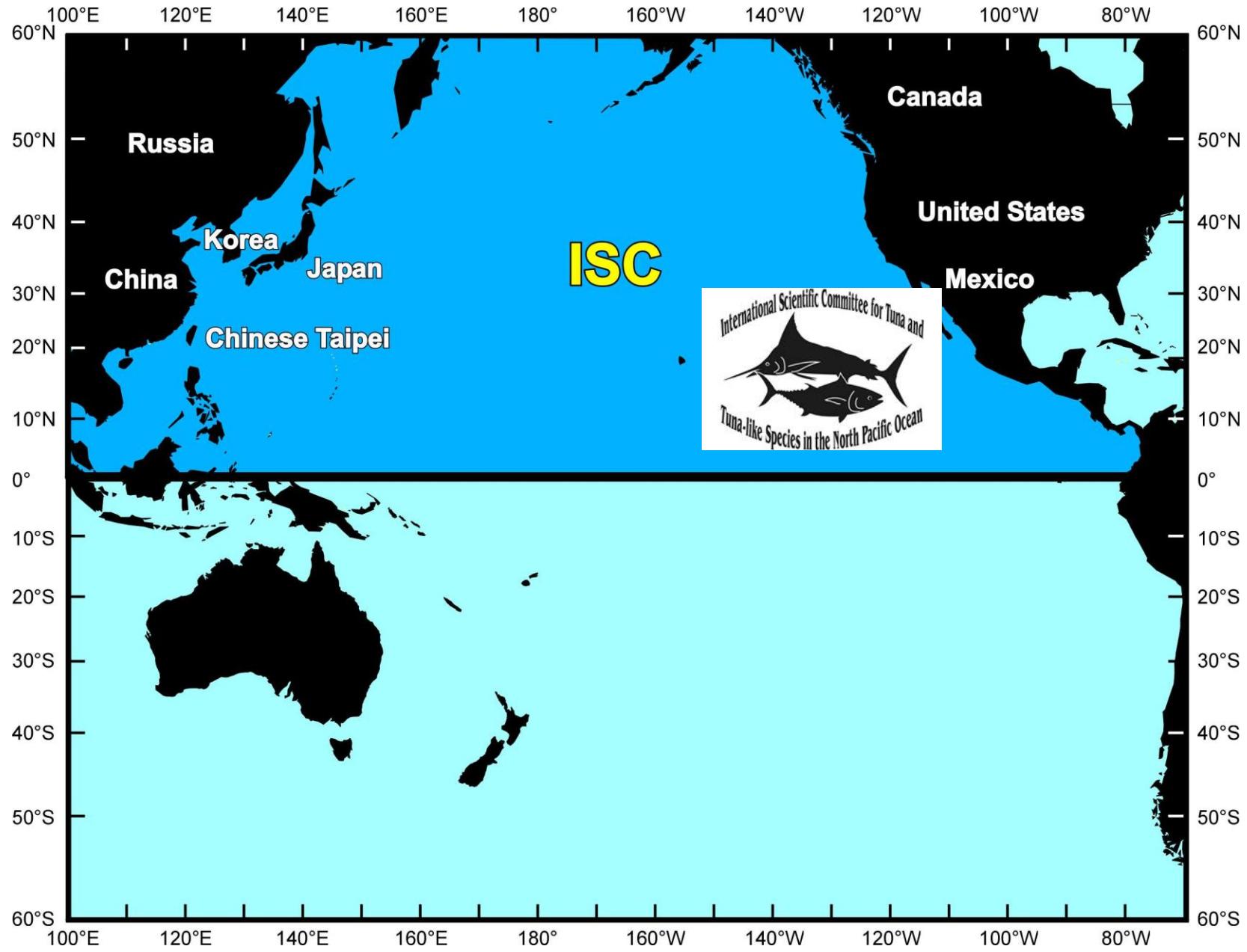
- HMS range throughout vast areas of the Pacific Ocean
- 36 nations harvest HMS in the Pacific
- There is no single, pan-Pacific organization that manages all HMS throughout their ranges

International Pacific Fisheries Management Organizations / Management Treaties

- WCPFC - Western and Central Pacific Fisheries Commission
 - ISC – International Scientific Committee for Tuna and Tuna-like Species in the NPO
 - SPC – Secretariat of the Pacific Community
- IATTC - Inter-American Tropical Tuna Commission
- US / Canada Albacore Treaty
- SPTT - South Pacific Tuna Treaty



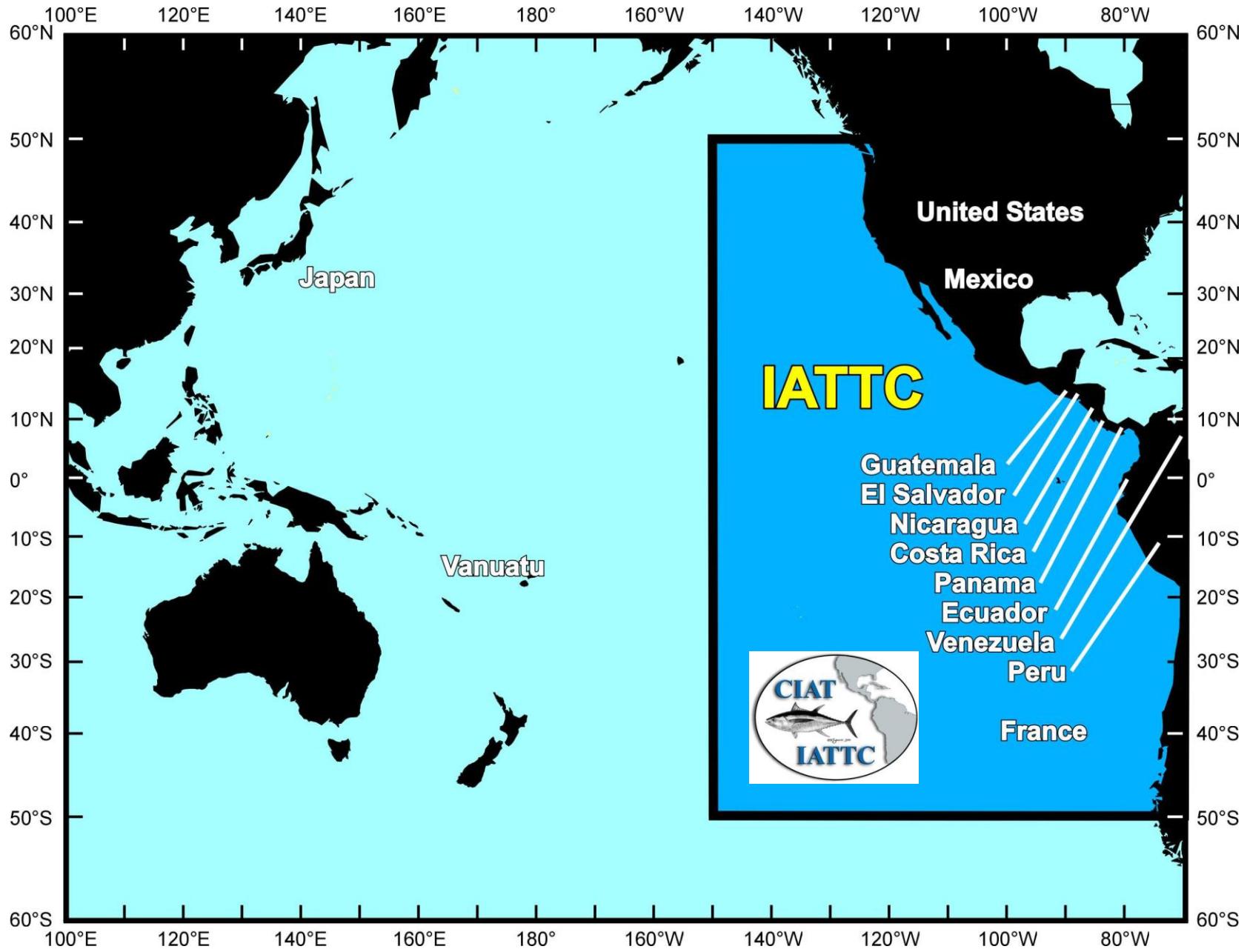
NOAA FISHERIES



NOAA FISHERIES

International Pacific Fisheries Management Organizations / Management Treaties

- WCPFC - Western and Central Pacific Fisheries Commission
 - ISC – International Scientific Committee for Tuna and Tuna-like Species in the NPO
 - SPC – Secretariat of the Pacific Community
- IATTC - Inter-American Tropical Tuna Commission
- US / Canada Albacore Treaty
- SPTT - South Pacific Tuna Treaty



NOAA FISHERIES

International Pacific Fisheries Management Organizations / Management Treaties

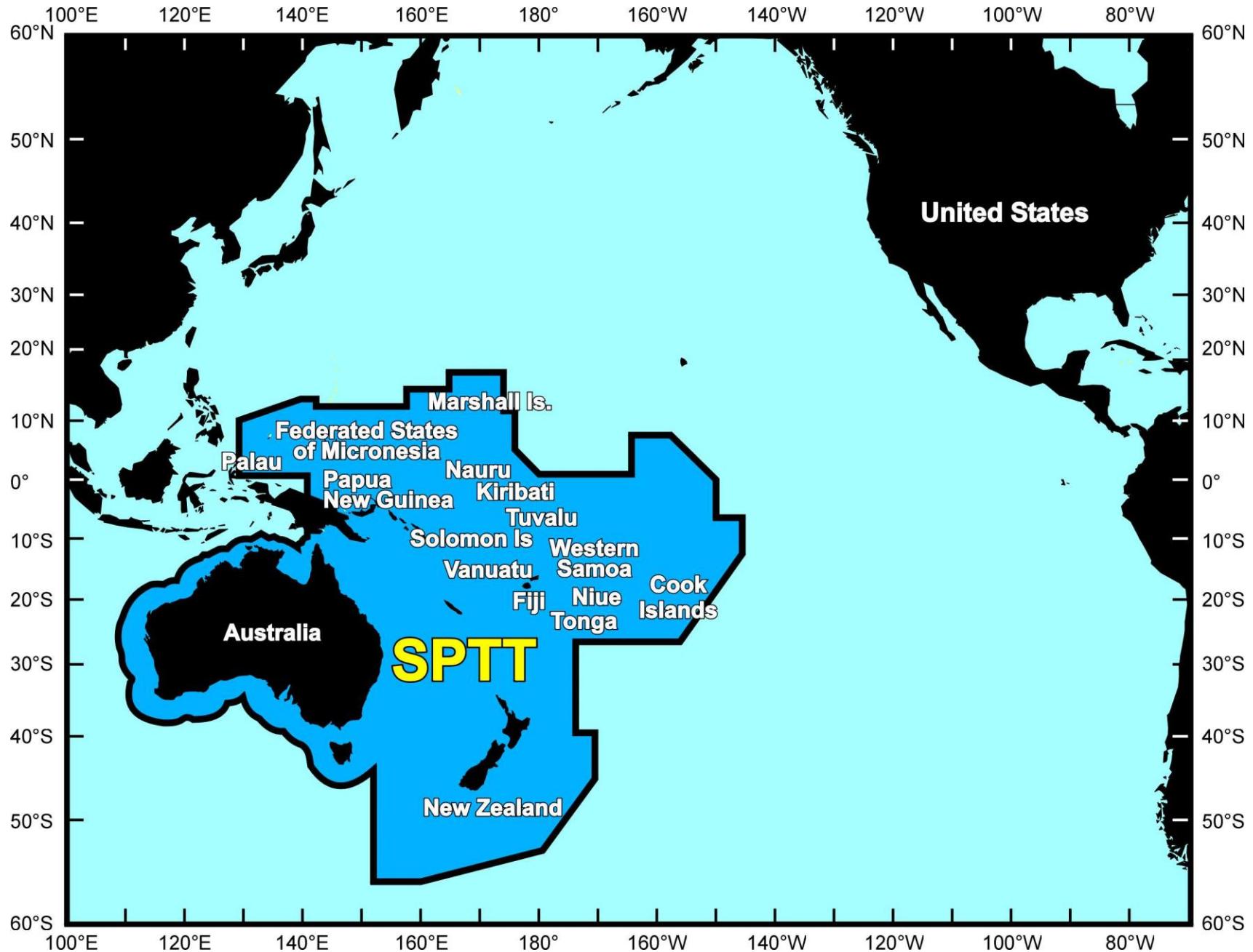
- WCPFC - Western and Central Pacific Fisheries Commission
 - ISC – International Scientific Committee for Tuna and Tuna-like Species in the NPO
 - SPC – Secretariat of the Pacific Community
- IATTC - Inter-American Tropical Tuna Commission
- US / Canada Albacore Treaty
- SPTT - South Pacific Tuna Treaty



NOAA FISHERIES

International Pacific Fisheries Management Organizations / Management Treaties

- WCPFC - Western and Central Pacific Fisheries Commission
 - ISC – International Scientific Committee for Tuna and Tuna-like Species in the NPO
 - SPC – Secretariat of the Pacific Community
- IATTC - Inter-American Tropical Tuna Commission
- US / Canada Albacore Treaty
- SPTT - South Pacific Tuna Treaty



NOAA FISHERIES

Federal and International Statutes

- High Seas Fishing Compliance Act
- Tuna Conventions Act
- Marine Mammal Protection Act
- Migratory Bird Treaty Act
- Endangered Species Act

Domestic Management

- Regional Fishery Management Councils: PFMC, WPFMC
 - PFMC HMS Management Plan since 2004
 - 11 managed species, many EC and prohibited species
 - Advised by: a management team made up of State and Federal representatives including scientists (HMSMT); a scientific and statistical committee (SSC); a subpanel of constituents from the commercial and recreational fisheries industries and NGOs (HMSAS); the public
- State Agencies: CA, OR, WA
 - Advised by their staff with input from constituent groups and the public
 - PFMC federal regulations aimed to be consistent with state regulations

Products

- HMS Stock Assessments
- Stock Status Reviews
- Various Data Reports

Customers

- International RFMOs: IATTC, WCPFC
- Domestic RFMOs: PFMC, WPFMC
- Albacore Treaty Negotiators
- SPTT / FFA

Other Users

- NMFS Headquarters
- NMFS SWRO (WCRO)
- NMFS PIRO
- Marine Stewardship Council (MSC)
- NGOs
 - Pew, Monterey Bay Aquarium, ISSF, etc.
- Constituent Groups
 - WFOA, AAFA, HLA, United Anglers, SAC, etc.

Strengths

- For albacore in particular, there is a long history of collaboration first as the North Pacific Albacore Workshop established in 1974
- Management covers the entire Pacific and coordination has begun among RFMOs
- Multiple science providers may enable coordination and a division of labor

Challenges

- Multiple RFMOs and treaties require numerous, often redundant data reporting
- Multiple RFMOs managing the same stocks with different management objectives (e.g. OY vs. MSY)
- Stock assessments require fishery data and cooperation from many nations

Strategies

- Standardize reporting requirements and reporting templates
- Foster coordination among RFMOs, Science Providers, and fishing nations

[data matrix]

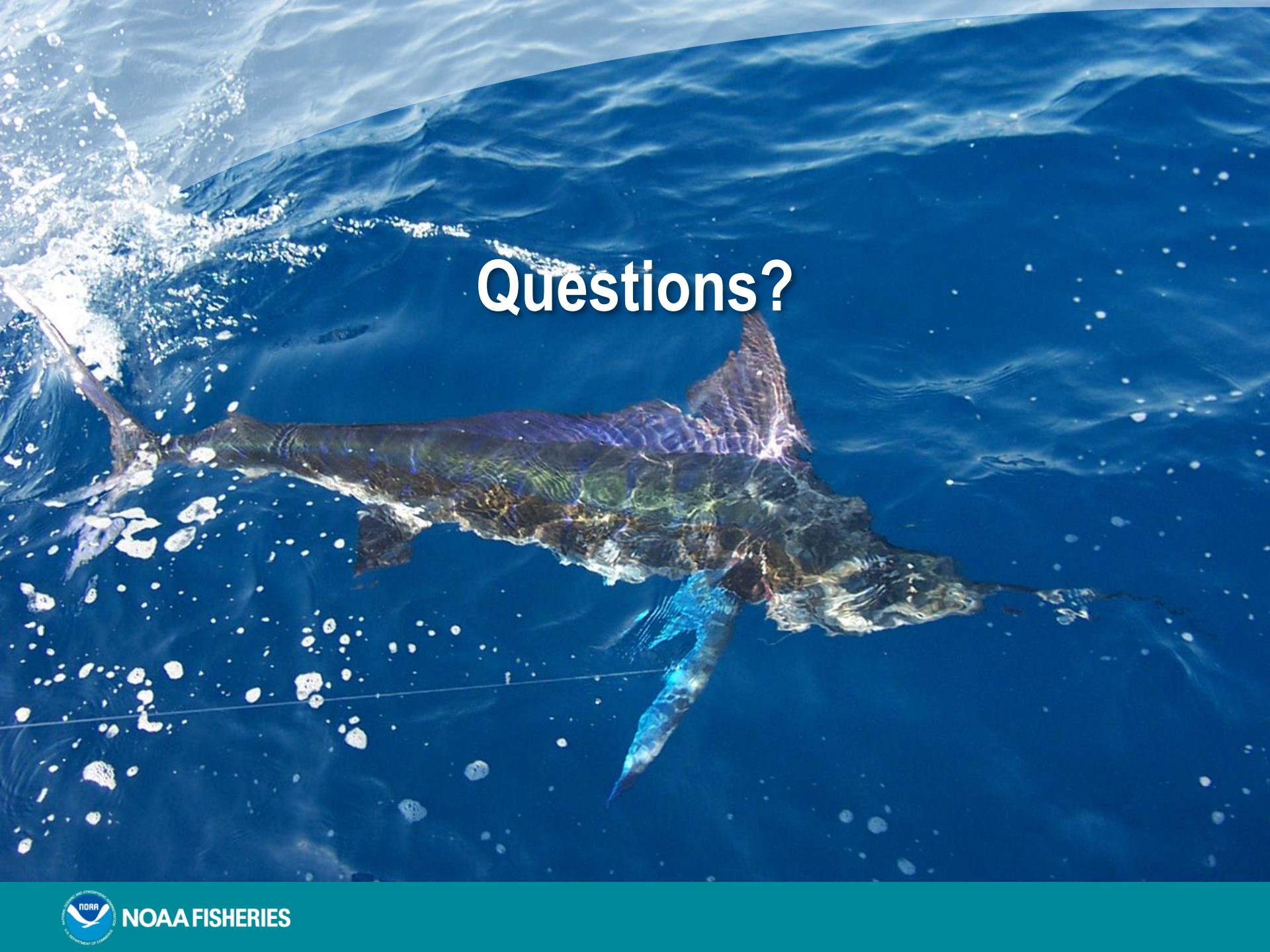
Data sources for Highly Migratory Species Stock Assessments

			Species	Billfish	Billfish	Swordfish - North Pacific EPO	Striped marlin - Eastern Tropical Pacific	Skipjack - Eastern Tropical Pacific	Tuna	Tuna	Tuna	Tuna	Tuna	Bigeye tuna - EPO	WCPO Tropical Tuna complex (Bigeye, Yellowfin, Skipjack)	Tuna	Shark	Shark	Shark	Shark	Shark	Shark	Bycatch	Spatial Coverage (current for living programs)						Temporal coverage	Gear					
				Assessment Tier	1	1	1	2006	1	2012	1	Albacore - North Pacific	Albacore - South Pacific	Yellowfin tuna - Eastern Tropical Pacific	Albacore - North Pacific	Bigeye tuna - EPO	WCPO Tropical Tuna complex (Bigeye, Yellowfin, Skipjack)	1	2012	2013	2014	Blue shark - North Pacific	Thresher shark (Alopias vulpinus) - eastern North Pacific	Bigeye Thresher shark	Pelagic Thresher shark	Shortfin mako - North Pacific	White Shark - Eastern North Pacific	Dorado	Bycatch	CA	OR	WA	US EEZ	Canada	Mexico	High Seas / International
				Last Assmt Year	2010	2011	2011	2006	2012	2011							2012																Years			
Current Fishery-independent Data Collection Programs	HMS Longline (AKA Juvenile Blue & Mako Shark) Survey	Catch														0																1994-2013				
		Species composition														0																1994-2013				
		Abundance index														0																1994-2013				
		Size, Age&Growth														X																1994-2013				
		Reproduction																														1994-2013				
		Hydrography															0															1994-2013				
		Stock Structure															X															1994-2013				
		Ecosystem/Ecology														0																1994-2013				
	Juvenile Thresher Shark Survey	Catch																X														2006-2013				
		Species composition																X														2006-2013				
		Abundance index															X															2006-2013				
		Size, Age&Growth																X														2006-2013				
		Reproduction																														2006-2013				
		Stock Structure																X														2006-2013				
Albacore Tagging Program	Swordfish Exploratory Fishing and Tagging Program	Hydrography																														2002-2013				
		Size, Age&Growth															0															2002-2013				
		Hydrography																X														2002-2013				
		Stock Structure																X														2002-2013				
		Migration															X															2002-2013				
		Catch																																		
		Species composition																																		
		Abundance index																																		
		Size, Age&Growth																																		
		Stock Structure																																		
North Pacific Albacore troll	South Pacific Albacore troll	Hydrography																																		
		Biological - Species Composition																																		
		Biological - Size, Age&Growth																																		
		Biological - Tagging																																		
		Landings (Cat I)																X																		
		Catch, Discards & Effort (Cat II)																X																		
		Biological - Species Composition																X																		
		Biological - Size, Age&Growth																0																		
		Biological - Tagging																																		
		Landings (Cat I)																	X																	
WCPo Purse Seine	WCPo Purse Seine	Catch, Discards & Effort (Cat II)	0	0	X	X	0	0	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1988-PRESENT	purse seine				
		Biological - Species Composition			X	X																														
		Biological - Size, Age&Growth			X	X												X	X																	
		Biological - Tagging			X	X												X	X																	
		Landings (Cat I)																																		
		Catch, Discards & Effort (Cat II)																																		
		Biological - Species Composition																																		
		Biological - Size, Age&Growth																																		
		Biological - Tagging																																		
		Landings (Cat I)																																		



NOAA FISHERIES

		Current Fishery-Dependent data collection programs																			
		Commercial						Recreational						Dead Fishery-Dependent Data Collection Programs							
Commercial	Recreational	Dead Fishery-Dependent Data Collection Programs	EPO Purse seine		Drift Gillnet		Harpoon		California Longline		CA Sport		OR/WA sport		DGN Market sampling						
			Landings (Cat I)	X	X	X	X	X	X		0	0	0	0	0	0	0	0	1918-PRESENT	purse seine	
			Catch, Discards & Effort (Cat II)	X	X		X	X			0	0	0	0	0	0	0	0	0	1950-PRESENT	
			Biological - Species Composition	X	X		X	X												1954-	
			Biological - Size, Age&Growth	X	X		X	X													
			Biological - Tagging	X	X		X														
			Landings (Cat I)	X	0	0	X	0	0	X	X	0	0	X	0	0	X	X	X	1981-PRESENT	large-mesh drift gillnet
			Catch, Discards & Effort (Cat II)	X	0	0	X	0	0	X	X	0	0	X	0	0	X	X	X	1980-PRESENT	
			Biological - Species Composition	X	0	0		0	0	X	X	0	0	X	0	0	X	X	X		
			Biological - Size, Age&Growth	0	X	X	X	X		X	X	0	0	X	0	0	X	X	X		
			Biological - Tagging																		
Recreational	Dead Fishery-Dependent Data Collection Programs	Landings (Cat I)	X								0	0	0	0	0	0	X	X	1908-PRESENT	harpoon	
		Catch, Discards & Effort (Cat II)	X								0	0	0	0	0	0	X	X	1974-PRESENT		
		Biological - Species Composition																			
		Biological - Size, Age&Growth																			
		Biological - Tagging																			
		Landings (Cat I)	X	X	X	X	X		X	0	0	0	0	0	0	0	X	X	1990-PRESENT	longline	
		Catch, Discards & Effort (Cat II)	X	X	X	X	X		X	0	0	0	0	0	0	0	X	X	2003-PRESENT		
		Biological - Species Composition																			
		Biological - Size, Age&Growth		X	X	X	X	X	X	0	0	0	0	0	0	0	X	X	1990-PRESENT		
		Biological - Tagging																			
Recreational	Dead Fishery-Dependent Data Collection Programs	Landings (Cat I)	X	0	0	0	X	0		X	0	0	0	0	0	0	0	0	0	1980-PRESENT	ROD AND REEL
		Catch, Discards & Effort (Cat II)	X	0	0	0	0	0		X	0	0	0	0	0	0	0	0	0	1936-PRESENT	
		Biological - Species Composition																			
		Biological - Size, Age&Growth								X											
		Biological - Tagging		X																	
		Landings (Cat I)				X											X	X	1963-PRESENT		
		Catch, Discards & Effort (Cat II)				X											X	X	2005-PRESENT	ROD AND REEL	
		Biological - Species Composition															X	X	2005-PRESENT		
		Biological - Size, Age&Growth																			
		Biological - Tagging																			
DGN Market sampling	Landings (Cat I)																				
	Catch, Discards & Effort (Cat II)																				
DGN Market sampling	Biological - Species Composition																				
	Biological - Size, Age&Growth	0		0	0	0		0		X	0	0	0	0	0	0	0		1981-1990	GILLNET (SET AND DRIFT)	
DGN Market sampling	Biological - Tagging																				

A marlin is shown swimming through the ocean, its body angled towards the right. Sunlight reflects off its dark, iridescent scales, creating a shimmering effect. The water around it is a deep blue, with white foam and spray visible from its movement.

Questions?



NOAA FISHERIES